

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 2002/0033854) in view of Koike et al. (US 2002/0192003).

Silverbrook discloses the following claim limitations:

As per claim 1: a photofinishing system comprising a support structure (figure 164B, element 1100 – 1106 and 1108), a processor (figure 164A, element 1188), drive means [0338] – [0341] and a printer (figure 162, element 44) mounted within a compartment of the support structure [2968] – [2969]; [0028] - [0033] and (figure 1, element 1 – entire camera structure is the body; the elements of the printer are located within it), and a cartridge comprising a housing which houses a roll of print media (figure 164B, elements 1106 and 1108) removably received within a compartment of the support structure (figure 164C; it would have been obvious to one of ordinary skill in the art at the time of the invention that if the photofinishing system can be taken apart, as shown in figures 163 and 164, the cartridge can be removed), the cartridge comprising a roll of print media (figure 164B, element 1126) and feed means in contact with the print media unrolled from the roll of the print media (figure 164B, element 1130), wherein the drive means [0339] has a coupling arranged to couple with the feed means of the cartridge with a roller

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mounted to the compartment of the support structure [1823] – [1824] and (figure 164B, element 1128 mounted on elements 1140 and 1138), the roller being arranged to contact print media rolled on the roll of print media in the housing cartridge through an opening in the housing of the cartridge when the cartridge is mounted to the support structure, the print media being fed (figure 164B, element 1118) through the printer by operation of the roller on the roll of print media and the feed means [1823] on the unrolled print media via the coupling to the drive means.

As per claim 4: at least one printing fluid is provided for the printer by way of at least one replaceable printing fluid cartridge [1828].

As per claim 5: the at least one refillable secondary cartridge carried by the cartridge, the secondary cartridge containing printing ink to be delivered to the printer (figure 164B, element 1102).

As per claim 9: the printer comprises at least one printhead assembly (figure 162, element 615)

Silverbrook does not specifically disclose the following claim limitations:

As per claim 1: the print media feed means and cartridge arranged to be removably mounted to the support structure and the processor generates a drive signal that is representative of a photographic image and the printer receives the drive signal from the processor and effects printing of the photographic image on the print media in accordance with the drive signal as the print media is fed through the printer from the cartridge.

As per claim 2: the processor comprises a digital processor which is arranged to receive digitised data that is representative of a photographic image and to process the data in a manner to generate a printer drive signal that is representative of the photographic image, and the printer

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is arranged to process the drive signal and effect page-width printing of the photographic image on the print media as it is fed directly to the printer from the roll.

Koike et al. discloses the following claim limitations:

As per claim 1: the processor generates a drive signal that is representative of a photographic image and the printer receives the drive signal from the processor and effects printing of the photographic image on the print media in accordance with the drive signal as the print media is fed through the printer from the cartridge [0109] – [0110] and (figure 1, elements 42, 44, and 46).

As per claim 2: the processor comprises a digital processor which is arranged to receive digitised data that is representative of a photographic image and to process the data in a manner to generate a printer drive signal that is representative of the photographic image, and the printer is arranged to process the drive signal and effect page-width printing of the photographic image on the print media as it is fed directly to the printer from the roll [0039] - [0043].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printer taught by Silverbrook with the disclosure of Koike et al. in order to shorten the processing time of each image.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 2002/0033854) and Koike et al. (US 2002/0192003), and further in view of Silverbrook (US 6443555).

Silverbrook as modified disclose the following claim limitations:

As per claims 10: the photofinishing system of claim 1.

As per claim 11: the print head assemblies are arranged selectively to direct printing fluid onto at least one face of print media from a roll of print media (figures 162 and 164B).

Silverbrook as modified do not disclose the following claim limitations:

As per claim 10: the printer comprises two confronting, spaced-apart print head assemblies.

Silverbrook et al. disclose the following claim limitations:

As per claim 10: the printer comprises two confronting, spaced-apart print head assemblies (column 6, lines 18-24).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the photofinishing system taught by Silverbrook as modified with the printheads taught by Silverbrook et al. in order to create longer printhead.

Claims 12, 13, 24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 2002/0033854) and Koike et al. (US 2002/0192003), and further in view of Silverbrook (US 6439908 B1).

Silverbrook as modified disclose the following claim limitations:

As per claims 12, 13, 24, and 25: the printing system of claim 1.

Silverbrook et al. as modified do not disclose the following claim limitations:

As per claim 12: each print head assembly comprises at least one print head module, each of which comprises a unitary arrangement of: a support member and at least four micro-electromechanical integrated circuit print head chips, each of which has a plurality of nozzles to and from which the printing fluid is delivered; fluid distribution arrangement mounting each of

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the printhead chips to the support member, and a connector for connecting electrical power and signals to each of the printhead chips.

As per claim 13: the at least one printhead module is removably located in a channel portion of a casing and the casing contains electrical circuitry for controlling the delivery of electrical power and drive signals to the printhead chips by way of the connector.

As per claim 25: the printhead assembly has a width within the range of 150 to 1250 mm and printhead chips numbering between 8 and 64.

Silverbrook (908) disclose the following claim limitations:

As per claim 12: each print head assembly comprises at least one print head module (figure 2), each of which comprises a unitary arrangement of: a support member (figure 2, element 16) and at least four micro-electromechanical integrated circuit print head chips (figure 2, element 18), each of which has a plurality of nozzles to and from which the printing fluid is delivered; fluid distribution arrangement mounting each of the printhead chips to the support member, and a connector for connecting electrical power and signals to each of the printhead chips (figure 8, element 48 or figure 2, elements 58 and 60 and figure 6, element 54).

As per claim 13: the at least one printhead module is removably located in a channel portion (column 1, line 65 – column 2, line 5 and figure 2) of a casing and the casing contains electrical circuitry for controlling the delivery of electrical power and drive signals to the printhead chips by way of the connector (figure 3, element 66 and 54).

As per claim 25: the printhead assembly has a width within the range of 150 to 1250 mm and printhead chips numbering between 8 and 64 (column 2, lines 34-61 and column 6, lines 12-18).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Silverbrook as modified with the electrical system of Silverbrook (908) in order to more effectively control the printing system.

As per claim 24: Silverbrook et al. as modified disclose the following claimed limitation except for the printhead assembly is arranged to effect printing of the print media with a feed rate of up to 2 meters per second. It would have been obvious to one having ordinary skill in the art at the time the invention was made to change the feed rate in order to improve image quality and reduce streaking, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Response to Arguments

Applicant's arguments filed 2/28/10 have been fully considered but they are not persuasive. Applicant argues that the amendments to claim 1 put the application in condition for allowance; however, examiner disagrees, as the printer taught by Silverbrook is housed within a camera structure.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA E. MARTIN whose telephone number is (571)272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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